

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

~~{1}~~ 1. (Currently Amended) A variable gain voltage/current converter circuit comprising:

an input section active element having an input terminal, an output terminal, and a ground terminal for performing voltage/current conversion;

a potential control circuit for controlling a conversion gain of said input section active element based on a potential at the output terminal of said input section active element;

an output section voltage/current converter circuit for generating a current corresponding to a voltage signal generated from said potential control circuit; and

a current compensation circuit connected to the output terminal of said input section active element for generating a DC current in accordance with the amount of DC current which flows from the output terminal of said input section active element to said input section active element.

~~{2}~~ 2. (Currently Amended) The variable gain voltage/current converter circuit according to claim 1, wherein:

said potential control circuit comprises:

a voltage comparator circuit having a first input terminal applied with a potential control signal, and a second input terminal connected to the output terminal of said input section active element; and

an intervening active element having an input terminal connected to the output terminal of said voltage comparator circuit, and an output terminal connected to the output terminal of said input section active element for performing voltage/current conversion.

~~{3}~~ 3. (Currently Amended) The variable gain voltage/current converter circuit according to claim 2, wherein said voltage comparator circuit includes an operational amplifier.

{4} 4. (Currently Amended) The variable gain voltage/current converter circuit according to ~~any of claims 1 to 3~~ claim 1, wherein said current compensation circuit includes an active element which has an input terminal applied with a current compensation voltage signal, and an output terminal connected to the output terminal of said input section active element.

{5} 5. (Currently Amended) The variable gain voltage/current converter circuit according to ~~any of claims 2 to 4~~ claim 2, wherein a circuit for generating the current compensation voltage signal comprises:

an operational amplifier applied with a reference voltage signal at a first input terminal, and applied with an input voltage signal of a duplication circuit of said intervening active element at a second input terminal; and

an active element having an input terminal connected to the output terminal of said operational amplifier, said output terminal being connected to an output terminal of the duplication circuit of said input section active element.

{6} 6. (Currently Amended) The variable gain voltage/current converter circuit according to ~~any of claims 1 to 5~~ claim 1, wherein said active element forming part of said variable gain voltage/current converter circuit includes a field effect transistor or a bipolar transistor.

{7} 7. (Currently Amended) A filter circuit comprising:
a combinational circuit of the variable gain voltage/current converter circuit according to ~~any of claims 1 to 6~~ claim 1, and a capacitive element; and
means for adjusting a pass frequency band by changing the gain of said variable gain voltage/current converter circuit.